

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A vacuum heat insulator comprising:

a core formed of a laminated body where glass fibers are laminated in a thickness direction of the vacuum heat insulator,

wherein the glass fibers contain an alkali content of at least 0.8% and at most 20% in weight, and the average diameter of the glass fibers is 3.5 μm ; and

an enveloping member covering the core and having gas barrier property,

wherein the core is pressurized-heat-pressed at 480 °C for 5 minutes and molded so that the laminated body has a density of 100 kg/m³ to 400 kg/m³, thereby a shape of the core during heat-press is kept by an anchor effect due to and the glass-fibers are drawn by heat deformation of the glass-fibers at one of the following temperatures which are lower than the strain point of the glass-fibers:

a temperature at which the glass-fibers start to deform due to own weight of the glass-fibers; and

a temperature at which the glass-fibers become deformable due to a vertical load in pressing and sectional shapes of the glass-fibers do not significantly vary; and

a shape of the core is kept by entanglement of parts of the glass fibers instead of binding of the glass fibers; and

wherein the vacuum heat insulator has a heat conductivity of from 0.0018 to 0.0020 W/mK and an effect in which the glass fibers are drawn by heat deformation of the glass fibers, and the glass fibers are not cross-linked through necks formed between the glass fibers.

2. (Original) The vacuum heat insulator according to claim 1, wherein glass wool is used as the glass fibers.

3. (Original) The vacuum heat insulator according to claim 1, wherein the core is free from binding material for binding the glass fibers.

4. - 6. (Cancelled)

7. (Previously Presented) The vacuum heat insulator according to claim 1, wherein the core has a smooth surface layer on at least one-side surface in a lamination direction of the laminated body.

8. (Cancelled)

9. (Currently Amended) A hot-insulation cold-insulation apparatus comprising:

a box body;

a vacuum heat insulator applied to at least a wall part of the box body,

wherein the vacuum heat insulator ~~including~~ includes a core formed of a laminated body where glass fibers are laminated in a thickness direction of the vacuum heat insulator, the glass fibers contain an alkali content of at least 0.8% and at most 20% in weight, and the average diameter of the glass fibers is 3.5 μm ; and

an enveloping member covering the core and having gas barrier property,

wherein the core is heat-pressed at 480 °C for 5 minutes and molded so that the laminated body has a density of 100 kg/m³ to 400 kg/m³,

thereby a shape of the core during heat-press is kept by an anchor effect due to entanglement of parts of the glass fibers instead of binding of the glass fibers and an effect in which the glass fibers are drawn by heat deformation of the glass fibers, and the glass fibers are not cross-linked through necks formed between the glass fibers; and

a temperature regulator for keeping temperature in the box body;body.

~~wherein the core is pressurized and molded and the glass fibers are drawn by heat deformation of the glass fibers at one of the following temperatures which are lower than the strain point of the glass fibers:~~

~~a temperature at which the glass fibers start to deform due to own weight of the glass fibers; and~~

~~a temperature at which the glass fibers become deformable due to a vertical load in pressing and sectional shapes of the glass fibers do not significantly vary; and~~

~~a shape of the core is kept by entanglement of parts of the glass fibers instead of binding of the glass fibers; and~~

~~wherein the vacuum heat insulator has a heat conductivity of from 0.0018 to 0.0020 W/mK.~~

10. (Cancelled)

11. (Withdrawn) A manufacturing method of a vacuum heat insulator comprising:

laminating and arranging glass fibers in a thickness direction of the vacuum heat insulator and molding an assembly where the glass fibers are partially entangled; heating and pressing the assembly at one of the following temperatures:

a temperature at which the glass fibers start to deform due to own weight of the glass fibers; and

a temperature at which the glass fibers become deformable due to a vertical load in pressing and sectional shapes of the glass fibers do not significantly vary, and

thermally deforming the assembly into a shape at a heating and pressing time;

cooling the assembly thermally deformed in a state at the heating and pressing time to form a board-like core that keeps the shape at the heating and pressing time and has high restrictiveness and integrity in a thickness direction;

drying the core and then inserting the core into an enveloping member that is formed of bag-like laminated film having an opening; and

evaluating an inside of the enveloping member and heat-sealing the opening.

12. (Withdrawn) The manufacturing method of the vacuum heat insulator according to claim 11, wherein the glass fibers contain an alkali component of at least 0.8% and at most 20% in weight, and the heating and pressing are performed at 480°C for 5 minutes.